BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents *will not* correct images, please do not report the images to the Image Problem Mailbox.

B1

54. A composition of matter comprising a solid, agarose coated, agarose containing bead, wherein said bead contains cancer cells isolated from an animal which, when restricted by being entrapped in said bead, produce more of a material that suppresses cancer cell proliferation, wherein said material diffuses through said solid, agarose coated, agarose containing bead, wherein said material has a molecular weight of at least about 30 kd.

55. The composition of matter of claim 54, wherein said cancer cells are renal cancer cells.

56. The composition of matter of claim 54, wherein said bead contains from about 10,000 to about 200,000 cells.

57. The composition of matter of claim 56, wherein said bead contains from about 30,000 to about 100,000 cells.

58. Method for suppressing cancer cell proliferation in a subject, comprising implanting a sufficient amount of the composition of matter of claim54 in said subject to suppress the proliferation of cancer cells in subject.

59. A process for making a solid bead which comprises agarose, and is coated with agarose, wherein said solid bead contains cancer cells which, when restricted by being entrapped in said bead produce material that suppresses cancer cell proliferation and diffuses through said bead, comprising:

(a) adding agarose to a solution which contains a sample of cancer cells isolated from an animal which are capable of producing material that suppresses cancer cell proliferation which diffuses through said bead when said cancer cells are restricted by being entrapped by the bead,

(b) forming a semi-solid bead comprising said agarose and said cancer cells,

(c) polymerizing the agarose in said semi-solid bead to form a solid, agarose bead containing and thereby restricting said cancer cells, and

(d) coating said solid, agarose containing bead containing the restricted cancer cells with agarose, wherein said restricted cancer cells produce more of said material than when said cancer cells are not entrapped in said bead, wherein said material has a molecular weight of at least about 30 kd.

60. The process of claim 59, wherein said solution contains from about 10,000 to about 200,000 cells.

61. The process of claim 60, wherein said solution contains from about 30,000 cells to about 100,000 cells.

62. A composition useful in suppressing proliferation of cancer cells, said composition produced by entrapping a sample of cancer cells in a biocompatible, selectively-permeable structure comprising agarose, culturing said cancer cells entrapped in said structure in culture medium, wherein growth of said cancer cells is restricted by entrapment in said structure, to produce a cancer-cell proliferation suppressing material having a molecular weight of at least about 30 kd which suppresses proliferation of cancer cells, filtering the culture medium through a filter which separates material having a molecular weight of at least about 30 kd from material having a molecular weight of less than 30 kd; and recovering said cancer-cell proliferation suppressing material having a molecular weight of at least about 30 kd.

63. The composition of claim 62, wherein said entrapped cancer cells are of epithelial origin.

64. The composition of claim 62, wherein said entrapped cancer cells are breast cancer cells, renal cancer cells, prostate cancer cells or choriocarcinoma cells.

65. The composition of claim 62, wherein said entrapped cancer cells are human cancer cells.

66. The composition of claim 62, wherein said entrapped cancer cells are mouse cancer cells.

67. The composition of claim 62, wherein said structure contains from about 10,000 to about 500,000 cancer cells.

68. The composition of claim 62, wherein said structure contains from about 30,000 to about 250,000 cancer cells.

69. A method for suppressing proliferation of cancer cells in a subject in need thereof, comprising administering to said subject a sufficient amount of the composition of claim 62 to suppress proliferation of cancer cells in said subject.

70. The method of claim 69, wherein said subject is a human.

71. The method of claim 70, wherein said entrapped cancer cells are not human cells.

72. The method of claim 71, wherein said entrapped cancer cells are mouse cells.

73. The method of claim 70, wherein said entrapped cancer cells are human cells.

74. The method of claim 70, wherein said restricted cancer cells are of the same type as the cancer with which said subject is afflicted.

75. The method of claim 70, wherein said restricted cancer cells are cancer cells taken from the human subject to which said structure is administered.

76. The method of claim 70, wherein said restricted cancer cells are of epithelial origin.

77. The method of claim 70, wherein said restricted cancer cells are selected from the group consisting of renal cancer, choriocarcinoma, breast cancer, and prostate cancer.

78. The method of claim 70, wherein said structure contains from about 10,000 to about 500,000 cells.

79. The method of claim 78, wherein said structure contains from about 30,000 to about 250,000 cells.

80. A process for producing a material which has a cancer cell proliferation-inhibiting effect, comprising culturing cancer cells entrapped in a biocompatible, selectively-permeable structure comprising agarose by placing said structure in a culture medium for a time sufficient to restrict growth of said entrapped cancer cells so that the restricted cancer cells produce a cancer-cell proliferation-suppressing material having a molecular weight of at least about 30 kd filtering the medium through a filter which separates material having a molecular weight of at least about 30 kd from material having a molecular weight of less than 30 kd; and recovering said cancer-cell proliferation-suppressing material having a molecular weight of at least about 30 kd.

81. The process of claim 80, wherein said medium is serum free.

82. The process of claim 80, wherein said cancer cells are human cancer cells.

83. The process of claim 80, wherein said cancer cells are mouse cancer cells.

84. The process of claim 80, wherein said cancer cells are of epithelial origin.

85. The process of claim 80, wherein said cancer cells are selected from the group consisting of breast cancer cells, renal cancer cells, prostate cancer cells, and choriocarcinoma cells.

86. The process of claim 80, wherein said structure contains from about 10,000 to about 500,000 cells.

87. The process of claim 86, wherein said structure contains from about 30,000 to about 250,000 cells.

88. The process of claim 80, wherein said structure is a bead.

89. Composition useful in suppressing proliferation of cancer cells, produced by entrapping cancer cells in a biocompatible, selectively-permeable structure comprising agarose, culturing the entrapped cancer cells in a culture medium to restrict proliferation of said entrapped cancer cells, wherein growth of said cancer cells is restricted by entrapment in said structure and said restricted cancer cells produce a material which suppresses proliferation of cancer cells, and filtering the medium through a filter which separates material having a molecular weight of at least about 30 kd from material having a molecular weight of less than 30 kd and recovering the separated material having a molecular weight of at least about 30 kd as measured by said filtering to provide said composition.

90. The composition of claim 89, wherein said entrapped cancer cells are epithelial cells.

91. The composition of claim 89, wherein said entrapped cells are selected from the group consisting of breast cancer cells, renal cancer cells, prostate cancer cells and choriocarcinoma cells.

92. The composition of claim 89, wherein said entrapped cells are human cells.

93. The composition of claim 89, wherein said entrapped cells are mouse cells.

94. The composition of claim 89, wherein said structure contains from about 10,000 to about 500,000 cells.

95. The composition of claim 89, wherein said structure contains from about 30,000 to about 250,000 cells.

96. A method for suppressing proliferation of cancer cells in a subject in need thereof, comprising administering to said subject a sufficient amount of the composition of claim 90 to suppress proliferation of cancer cells in said subject.

97. The method of claim 96, wherein said subject is a human.

98. The method of claim 96, wherein said entrapped cancer cells are of epithelial origin.

99. The method of claim 96, wherein said entrapped cells are selected from the group consisting of renal cancer, choriocarcinoma, breast cancer, and prostate cancer.

100. The method of claim 96, wherein said entrapped cancer cells are human cancer cells.

101. The method of claim 96, wherein said entrapped cancer cells are mouse cancer cells.

102. The method of claim 96, wherein said entrapped cells are of the same type of cancer cell being suppresses in said subject.

103. The method of claim 96, wherein said entrapped cells are cells taken from the subject to which said composition is administered.

104. The method of claim 96, wherein said structure contains from about 10,000 to about 500,000 cells.

105. The method of claim 104, wherein said structure contains from about 30,000 to about 250,000 cells.

106. A process for producing a material which has a cancer cell proliferation-inhibiting effect, comprising entrapping cancer cells in a biocompatible, selectively-permeable structure comprising agarose, culturing the entrapped cancer cells in a culture medium to restrict proliferation of said entrapped cancer cells, wherein growth of said cancer cells is restricted by entrapment in said structure and said restricted cancer cells produce a material which suppresses proliferation of cancer cells, and filtering the medium through a filter which separates material having a molecular weight of at least about 30 kd from material having a molecular weight of less than 30 kd and recovering the separated material having a molecular weight of at least about 30 kd as measured by said filtering to provide said material.

107. The process of claim 106, wherein said entrapped cancer cells are epithelial cells.

108. The process of claim 106, wherein said cancer cells are s elected from the group consisting of breast cancer cells, renal cancer cells, prostate cancer cells, and choriocarcinoma cells.

109. The process of claim 106, wherein said medium is serum free.

110. The process of claim 106, wherein said entrapped cancer cells are human cells.

111. The process of claim 106, wherein said entrapped cancer cells are mouse cells.

112. The process of claim 106, wherein said structure contains from about 10,000 to about 500,000 cancer cells.

113. The process of claim 112, wherein said structure contains from about 30,000 to about 250,000 cancer cells.

114. The process of claim 106, wherein said structure is a bead.

115. A process for producing a conditioned culture medium which has a cancer cell proliferation-inhibiting effect, comprising entrapping cancer cells in a biocompatible, selectively-permeable structure, culturing the entrapped cancer cells in culture medium to restrict proliferation of said entrapped cancer cells, wherein growth of said cancer cells is restricted by entrapment in said structure so that they produce a material that suppresses the proliferation of cancer cells which permeates through said structure into said culture medium to produce conditioned culture medium, and recovering the conditioned culture medium.

116. The process of claim 115, wherein said material has a molecular weight of at least about 30 kd.

117. A process for producing a frozen conditioned culture medium which has a cancer cell proliferation-inhibiting effect, comprising entrapping cancer cells in a biocompatible, selectively-permeable structure, culturing the entrapped cancer cells in culture medium to restrict proliferation of said entrapped cancer cells, wherein growth of said cancer cells is restricted by entrapment in said structure so that they produce a material that suppresses the proliferation of cancer cells which permeates through said structure into said culture medium to produce conditioned culture medium, recovering the conditioned culture medium and freezing the recovered conditioned culture medium.

118. The process of claim 117, wherein said material has a molecular weight of at least about 30 kd.

119. The culture medium produced by the process of claim 115.

120. The frozen culture medium produced by the process of claim 117

121. A composition of matter comprising culture medium and a material that suppresses the proliferation of cancer cells.

122. The composition of matter of claim 121, wherein said composition is frozen.

REMARKS

Reconsideration of this application, as amended, is respectfully requested.

Pending claims 1-53 have been canceled without prejudice, and new claims 54-122 are presented. New claims 54-114 mirror the language of claims granted in U.S. Patent Nos. 5,888,497, 6,224,912, and 6,303,151, and thus are believed to be allowable.

Claims 115-122 are directed to the culture medium in which the structures containing the beads have been cultured containing the cancer suppressive material.